

REMARKS

I. INTRODUCTION

Claims 1, 10, 11 and 12 have been amended. Claims 2 and 7 have been cancelled. No new matter has been added. The Applicant interprets the lack of a 35 U.S.C. § 102 rejection of claims 2-9 to indicate that the claims are allowable except for the 35 U.S.C. § 101 statutory double patenting rejection. Thus, claims 1, 3-6 and 8-12 are pending in the present application. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

II. THE 35 U.S.C. § 102(b) REJECTIONS SHOULD BE WITHDRAWN

Claims 1, 10, 11 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated U.S. Patent No. 6,122,009 to Ueda (hereinafter "Ueda"). (See 07/31/08 Office Action, p. 2).

Claim 1 has been amended to recite "A camera module comprising a holder provided with a light-conducting channel, within which channel a lens having an optical axis is present, a solid-state image sensor being present near an end of said light-conducting channel, which image sensor comprises an image pick-up section oriented perpendicularly to the optical axis, characterized in that aligning means forming part of the holder are present near the end of the light-conducting channel, which aligning means align the image pick-up section with respect to the optical axis, wherein the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, the aligning means comprising bulges present on the outer wall, near the corners of said polygon, the bulges extending beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, the solid-state image sensor being within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that

jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.” Claim 1 has been amended merely to incorporate the allowable dependent claims 2 and 7.

Ueda describes A CCD bare chip disposed on a substrate. (See Ueda Abstract). The CCD bare chip converts condensed light by an image forming lens disposed on a holder into an electrical signal and outputs an image signal. (See Ueda Abstract). The image forming lens is disposed on the holder. (See Ueda Abstract). A housing of the holder is a package that has a diaphragm effect for shielding peripheral rays of light and that shield outer light. (See Ueda Abstract).

The Examiner has indicated that claims 2 and 7 are allowable and claim 1 has been amended merely to incorporate the limitations within those cancelled claims. After reviewing Ueda, the Applicant respectfully submits that Ueda does not teach or suggest the amended recitation in claim 1. Therefore applicants respectfully submit that claim 1 is allowable.

Claim 10 has been amended to recite “A holder for use in a camera module, which holder is provided with a light-conducting channel, which is arranged for accommodating a lens having an optical axis and which is furthermore arranged for placing a solid-state image sensor comprising an image pick-up section near an end of the light-conducting channel, characterized in that aligning means forming part of the holder are present near said end of the light-conducting channel for aligning the image pick-up section with respect to the optical axis, wherein the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, the aligning means comprising bulges present on the outer wall, near the corners of said polygon, bulges extending beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, the solid-state image sensor being within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.”

Claim 11 has been amended to recite “A camera system comprising a camera module with a holder provided with a light-conducting channel in which a lens having an optical axis is present, in which a solid-state image sensor provided with an image pick-up section oriented perpendicularly to the optical axis is present near an end of the light-conducting channel, and in which aligning means forming part of the holder are present near said end of the light-conducting channel for aligning the image pick-up section with respect to the optical axis, characterized in that the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, in which the aligning means comprise bulges present on the outer wall, near the corners of said polygon, which bulges extend beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, as a result of which the solid-state image sensor is contained within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.”

Claim 12 has been amended to recite “A method of manufacturing a camera module comprising a holder provided with a light-conducting channel, characterized in that the holder is provided with aligning means, in which a solid-state image sensor being present near an end of the light-conducting channel comes into contact with the aligning means upon placement of the solid-state image sensor in said holder, as a result of which an image pick-up section present on the solid-state image sensor is aligned with respect to an optical axis, wherein the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, the aligning means comprising bulges present on the outer wall, near the corners of said polygon, the bulges extending beyond the end of the light-conducting channel, having an inner side which

abuts against at least one of the lateral surfaces of the solid-state image sensor, the solid-state image sensor being within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.”

Claims 10, 11 and 12 have been amended to recite the limitations from cancelled claims 2 and 7 in a similar manner as those limitations were incorporated into amended claim 1. Therefore, Applicant respectfully submits that claims 10, 11 and 12 are allowable for at least the same reasons as claim 1.

III. THE 35 U.S.C. § 102(e) REJECTIONS SHOULD BE WITHDRAWN

Claims 1, 10-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated U.S. Patent No. 6,900,913 to Chen (hereinafter “Chen”). (See 07/31/08 Office Action, p. 2).

Chen describes a CCD and CMOS image pickup module including a circuit main board on which an image sensor and relevant electronic elements are laid. (See Ueda Abstract). A lens seat is disposed on an upper edge of a package of the image sensor. (See Ueda Abstract). The lens seat has an image pickup cylinder correspondingly positioned above a coupling transistor of the image sensor. (See Ueda Abstract).

The Examiner has indicated that claims 2 and 7 are allowable and claim 1 has been amended to incorporate the limitations within those cancelled claims. After reviewing Chen, the Applicant respectfully submits that Chen does not teach or suggest the amended recitation in claim 1. Therefore applicants respectfully submit that claim 1 is allowable. Additionally, Claims 10, 11 and 12 have been amended to recite the limitations from cancelled claims 2 and 7 in a similar manner as those limitations were incorporated into amended claim 1. Therefore, Applicant respectfully submits that claims 10, 11 and 12 are allowable for at least the same reasons as claim 1.

IV. THE DOUBLE PATENTING REJECTIONS SHOULD BE WITHDRAWN

Claims 1-12 stand provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-12 of copending Application No. 10/521,256. (See 07/31/08 Office Action, p. 3).

Claim 1 has been amended to recite “A camera module comprising a holder provided with a light-conducting channel, within which channel a lens having an optical axis is present, a solid-state image sensor being present near an end of said light-conducting channel, which image sensor comprises an image pick-up section oriented perpendicularly to the optical axis, characterized in that aligning means forming part of the holder are present near the end of the light-conducting channel, which aligning means align the image pick-up section with respect to the optical axis, wherein the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, the aligning means comprising bulges present on the outer wall, near the corners of said polygon, the bulges extending beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, the solid-state image sensor being within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.” Claim 1 has been amended merely to incorporate the allowable dependent claims 2 and 7.

Claim 10 has been amended to recite “A holder for use in a camera module, which holder is provided with a light-conducting channel, which is arranged for accommodating a lens having an optical axis and which is furthermore arranged for placing a solid-state image sensor comprising an image pick-up section near an end of the light-conducting channel, characterized in that aligning means forming part of the holder are present near said end of the light-conducting channel for aligning the image pick-up section with respect to the optical axis, wherein the image pick-up section extends in a plane parallel to a main surface of the solid-state

image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, the aligning means comprising bulges present on the outer wall, near the corners of said polygon, bulges extending beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, the solid-state image sensor being within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.” Claim 10 has been amended to recite the limitations from claims 2 and 7 in a similar manner as those limitations were incorporated into amended claim 1.

Claim 11 has been amended to recite “A camera system comprising a camera module with a holder provided with a light-conducting channel in which a lens having an optical axis is present, in which a solid-state image sensor provided with an image pick-up section oriented perpendicularly to the optical axis is present near an end of the light-conducting channel, and in which aligning means forming part of the holder are present near said end of the light-conducting channel for aligning the image pick-up section with respect to the optical axis, characterized in that the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, in which the aligning means comprise bulges present on the outer wall, near the corners of said polygon, which bulges extend beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, as a result of which the solid-state image sensor is contained within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.” Claim 11 has been amended to recite the limitations from claims 2 and 7 in a similar manner as those limitations were incorporated into amended claim 1.

Claim 12 has been amended to recite “A method of manufacturing a camera module comprising a holder provided with a light-conducting channel, characterized in that the holder is provided with aligning means, in which a solid-state image sensor being present near an end of the light-conducting channel comes into contact with the aligning means upon placement of the solid-state image sensor in said holder, as a result of which an image pick-up section present on the solid-state image sensor is aligned with respect to an optical axis, wherein the image pick-up section extends in a plane parallel to a main surface of the solid-state image sensor, the solid-state image sensor comprising lateral surfaces oriented at least substantially perpendicularly to the main surface, and the holder comprising an outer wall which is at least substantially polygonal near the end, seen in sectional view in a direction perpendicular to the optical axis, the aligning means comprising bulges present on the outer wall, near the corners of said polygon, the bulges extending beyond the end of the light-conducting channel, having an inner side which abuts against at least one of the lateral surfaces of the solid-state image sensor, the solid-state image sensor being within the holder substantially without play in a direction perpendicular to the optical axis, wherein each of the bulges have an end that jointly form a bonding area which is oriented at least substantially perpendicularly to the optical axis.” Claim 12 has been amended to recite the limitations from claims 2 and 7 in a similar manner as those limitations were incorporated into amended claim 1.


Applicant respectfully submits that the amended independent claims and the remaining dependent claims are no longer coextensive in scope with the claims of Application No. 10/521,256. Therefore, Applicant respectfully submits that the provisional double patenting rejection be withdrawn.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the now pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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